

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

Attorney's Docket Number
05725.0545
FEB 18 2000

09/485904

International Application. No.	International Filing Date	Priority Date Claimed
PCT/FR99/01291	June 2, 1999	June 19, 1998

412 Rec'd PCT/PTO 18 FEB 2000

Title of Invention:

OXIDATION DYEING COMPOSITION FOR KERATINOUS FIBRES AND DYEING METHOD USING SAME

Applicant(s) For DO/EO/US:

Marie-Pascale AUDOUSSET

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [X] This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
2. [] This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.
3. [] This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. [] A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. [X] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. [] is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. [X] has been transmitted by the International Bureau.
 - c. [] is not required, as the application was filed in the United States Receiving Office (RO/US).
6. [X] A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. [X] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
 - a. [] are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. [] have been transmitted by the International Bureau.
 - c. [] have not been made; however, the time limit for making such amendments has NOT expired.
 - d. [X] have not been made and will not be made.
8. [] A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. [] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. [] A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. [X] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [X] A FIRST preliminary amendment.
 - [] A SECOND or SUBSEQUENT preliminary amendment.
14. [] A substitute specification.
15. [] A change of power of attorney and/or address letter.
16. [] Other items or information:
 - a. [] Verified Small Entity Statement.
 - b. [] Copy of Notification of Missing Requirements.

U.S. APPLICATION NO. 097485904

INTERNATIONAL APPLICATION NO. ATTORNEY DOCKET NUMBER
PCT/FR99/01291 05725.0545

17. [X]	The following fees are submitted:	CALCULATIONS																
	Basic National Fee (37 CFR 1.492(a)(1)-(5)):																	
	Search Report has been prepared by the EPO or JPO.....	\$840.00																
	International preliminary examination fee paid to																	
	USPTO (37 CFR 1.482).....	\$670.00																
	No international preliminary examination fee paid to																	
	USPTO (37 CFR 1.482) but international search fee																	
	paid to USPTO (37 CFR 1.445(a)(2)).....	\$760.00																
	Neither international preliminary examination fee																	
	(37 CFR 1.482) nor international search fee																	
	(37 CFR 1.445(a)(2)) paid to USPTO.....	\$970.00																
	International preliminary examination fee paid to USPTO																	
	(37 CFR 1.482) and all claims satisfied provisions																	
	of PCT Article 33(1)-(4).....	\$ 96.00																
	ENTER APPROPRIATE BASIC FEE AMOUNT	= \$ 840.00																
	Surcharge of \$130.00 for furnishing the oath or declaration later than																	
	[] 20 [] 30 months from the earliest claimed priority date																	
	(37 CFR 1.492(e)).	\$																
	<table border="1"> <tr> <th>Claims</th> <th>Number Filed</th> <th>Number Extra</th> <th>Rate</th> </tr> <tr> <td>Total Claims</td> <td>25 -20=</td> <td>5</td> <td>X \$18.00</td> </tr> <tr> <td>Independent Claims</td> <td>3 - 3=</td> <td></td> <td>X \$78.00</td> </tr> <tr> <td>Multiple dependent claim(s) (if applicable)</td> <td></td> <td></td> <td>+ \$260.00</td> </tr> </table>	Claims	Number Filed	Number Extra	Rate	Total Claims	25 -20=	5	X \$18.00	Independent Claims	3 - 3=		X \$78.00	Multiple dependent claim(s) (if applicable)			+ \$260.00	
Claims	Number Filed	Number Extra	Rate															
Total Claims	25 -20=	5	X \$18.00															
Independent Claims	3 - 3=		X \$78.00															
Multiple dependent claim(s) (if applicable)			+ \$260.00															
	TOTAL OF ABOVE CALCULATIONS	= \$ 930.00																
	Reduction by 1/2 for filing by small entity, if applicable. Verified																	
	Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28)	\$																
	SUBTOTAL	= \$ 930.00																
	Processing fee of \$130.00 for furnishing the English translation later																	
	than [] 20 [] 30 months from the earliest claimed priority date	\$																
	(37 CFR 1.492(f)).	+																
	TOTAL NATIONAL FEE	= \$ 930.00																
	Fee for recording the enclosed assignment (37 CFR 1.21(h)). The																	
	assignment must be accompanied by an appropriate cover sheet																	
	(37 CFR 3.28, 3.31).	\$40.00 per property + \$																
	TOTAL FEES ENCLOSED	= \$ 930.00																
	Amount to be																	
	refunded \$																	
	charged \$																	

- a. [X] A check in the amount of \$ 930.00 to cover the above fees is enclosed.
- b. [] Please charge my Deposit Account No. _____ in the amount of
\$ _____ to cover the above fees. A duplicate copy of this sheet is
enclosed.
- c. [X] The Commissioner is hereby authorized to charge any additional fees
which may be required, or credit any overpayment to Deposit Account
No. 06-0916. A duplicate copy of this sheet is enclosed.

The Commissioner is hereby authorized to charge any other fees due under 37 C.F.R. §1.16
or §1.17 during the pendency of this application to our Deposit Account No. 06-0916.

SEND ALL CORRESPONDENCE TO:
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Submitted: February 18, 2000

PATENT
Attorney Docket No. 5725.0545

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:) National Stage Application of
) PCT Application No.
Marie-Pascale AUDOUSSET) PCT/FR99/01291
)
Serial No.: not yet assigned) Group Art Unit: not yet assigned
)
Filed: February 18, 2000) Examiner: not yet assigned

For: OXIDATION DYEING COMPOSITION FOR KERATINOUS FIBRES AND
DYEING METHOD USING SAME

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Prior to initial examination, please amend the application as follows:

IN THE CLAIMS:

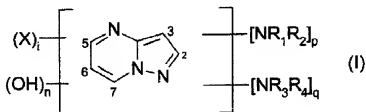
Please cancel claims 1-15 without prejudice to or disclaimer of the subject matter contained therein.

Please add new claims 16-40 as follows:

- 16. A composition for the oxidation dyeing of keratinous fibers comprising:
- at least one first oxidation base chosen from pyrazolo(1,5-a)pyrimidines of formula (I) and acid or base addition salts thereof :

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in which:

- R₁, R₂, R₃ and R₄, which are identical or different, are chosen from a hydrogen atom; a (C₁-C₄)alkyl radical; an aryl radical; a hydroxy(C₁-C₄)alkyl radical; a polyhydroxy(C₂-C₄)alkyl radical; a (C₁-C₄)alkoxy(C₁-C₄)alkyl radical; an amino(C₁-C₄)alkyl radical wherein said amine is optionally protected by an acetyl, an amido, or a sulphonyl group; a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di((C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical wherein said dialkyls optionally form a 5- or 6-membered aliphatic or heterocyclic ring; a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical; and a di(hydroxy(C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical;
- the X radicals, which are identical or different, are chosen from a hydrogen atom; a (C₁-C₄)alkyl radical; an aryl radical; a hydroxy(C₁-C₄)alkyl radical; a polyhydroxy(C₂-C₄)alkyl radical; an amino(C₁-C₄)alkyl radical; a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di((C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical

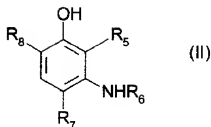
wherein said dialkyls optionally form a 5- or 6-membered aliphatic or heterocyclic ring; a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di(hydroxy(C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical; an amino radical; a (C₁-C₄)alkylamino radical; a di((C₁-C₄)alkyl)amino radical; a halogen atom; a carboxylic acid group; and a sulphonic acid group;

- i is 0, 1, 2 and 3;
- p is 0 or 1;
- q is 0 or 1;
- n is 0 or 1;

with the proviso that:

- (i) the sum $p + q$ is other than 0;
- (ii) when $p + q$ is equal to 2, then n is 0 and the NR_1R_2 and NR_3R_4 groups occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
- (iii) when $p + q$ is equal to 1, then n is 1 and either the NR_1R_2 or the NR_3R_4 group and the OH group occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
- at least one second oxidation base chosen from N,N-bis(β -hydroxyethyl)- para-phenylenediamine and its acid addition salts; and
- at least one coupler chosen from meta-phenylenediamines and meta-aminophenols of formula (II) and acid addition salts thereof:

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in which:

- R₅ and R₈, which are identical or different, are chosen from a hydrogen atom, a halogen atom, or a (C₁-C₄)alkyl, monohydroxy(C₁-C₄)alkyl, polyhydroxy(C₂-C₄)alkyl, (C₁-C₄)alkoxy, monohydroxy(C₁-C₄)alkoxy or polyhydroxy(C₂-C₄)alkoxy radical;
- R₆ is chosen from a hydrogen atom and a (C₁-C₄)alkyl, monohydroxy(C₁-C₄)alkyl, polyhydroxy(C₂-C₄)alkyl or an amino(C₁-C₄)alkyl radical;
- R₇ is chosen from a hydrogen atom, a (C₁-C₄)alkyl or (C₁-C₄)alkoxy radical and a halogen atom chosen from chlorine, bromine or fluorine;

it being understood that, when R₅ represents a chlorine atom and when R₆ and R₇ simultaneously represent a hydrogen atom, then R₈ is other than a methyl radical.

17. The composition according to claim 16, wherein the keratinous fibers are human keratinous fibers.

18. The composition according to claim 17, wherein the human keratinous fibres are hair.

19. The composition according to claim 16, further comprising a medium appropriate for dyeing.

20. The composition according to claim 16, wherein when R₅ or R₆ is a halogen atom, said halogen atom is chosen from chlorine, bromine, iodine and fluorine.

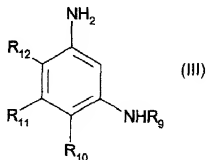
21. The composition according to claim 16, wherein the pyrazolo(1,5-a)pyrimidines of formula (I) are chosen from:

- pyrazolo(1,5-a)pyrimidine-3,7-diamine;
- 2-methylpyrazolo(1,5-a)pyrimidine-3,7-diamine;
- 2,5-dimethylpyrazolo(1,5-a)pyrimidine-3,7-diamine;
- pyrazolo(1,5-a)pyrimidine-3,5-diamine;
- 2,7-dimethylpyrazolo(1,5-a)pyrimidine-3,5-diamine;
- 3-aminopyrazolo(1,5-a)pyrimidin-7-ol;
- 3-amino-5-methylpyrazolo(1,5-a)pyrimidin-7-ol;
- 3-aminopyrazolo(1,5-a)pyrimidin-5-ol;
- 2-(3-aminopyrazolo(1,5-a)pyrimidin-7-ylamino)ethanol;
- 3-amino-7-(β-hydroxyethylamino)-5-methylpyrazolo(1,5-a)pyrimidine;
- 2-(7-aminopyrazolo(1,5-a)pyrimidin-3-ylamino)ethanol;

- 2-((3-aminopyrazolo(1,5-a)pyrimidin-7-yl)(2-hydroxyethyl)amino)ethanol;
- 2-((7-aminopyrazolo(1,5-a)pyrimidin-3-yl)(2-hydroxyethyl)amino)ethanol;
- 5,6-dimethylpyrazolo(1,5-a)pyrimidine-3,7-diamine;
- 2,6-dimethylpyrazolo(1,5-a)pyrimidine-3,7-diamine;
- 2,5,N-7,N-7-tetramethylpyrazolo(1,5-a)pyrimidine-3,7-diamine;

and acid or base addition salts thereof.

22. The composition according to claim 16, wherein the meta-phenylenediamines are chosen from the compounds of formula (III) and acid addition salts thereof:



in which:

- R_9 is chosen from a hydrogen atom, a $(\text{C}_1\text{-C}_4)$ alkyl radical, a monohydroxy $(\text{C}_1\text{-C}_4)$ alkyl radical and a polyhydroxy $(\text{C}_2\text{-C}_4)$ alkyl radical;

- R₁₀ and R₁₁, which are identical or different, are chosen from a hydrogen atom, a (C₁-C₄)alkyl radical, a monohydroxy(C₁-C₄)alkoxy radical, and a polyhydroxy(C₂-C₄)alkoxy radical;

- R₁₂ is chosen from a hydrogen atom, a (C₁-C₄)alkoxy radical, an amino(C₁-C₄)alkoxy radical, a monohydroxy(C₁-C₄)alkoxy radical, a polyhydroxy(C₂-C₄)alkoxy radical, and a 2,4-diaminophenoxyalkoxy radical.

23. The composition according to claim 22, wherein the meta-phenylenediamines are chosen from meta-phenylenediamine, 3,5-diamino-1-ethyl-2-methoxybenzene, 3,5-diamino-2-methoxy-1-methylbenzene, 2,4-diamino-1-ethoxybenzene, 1,3-bis(2,4-diaminophenoxy)propane, bis(2,4-diaminophenoxy)methane, 1-(β-aminoethoxy)-2,4-diaminobenzene, 2-amino-1-(β-hydroxyethoxy)-4-(methylamino)benzene, 2,4-diamino-1-ethoxy-5-methylbenzene, 2,4-diamino-5-(β-hydroxyethoxy)-1-methylbenzene, 2,4-diamino-1-(β,γ-dihydroxypropyloxy)benzene, 2,4-diamino-1-(β-hydroxyethoxy)benzene, 2-amino-4-N-(β-hydroxyethyl)amino-1-methoxybenzene and acid addition salts thereof.

24. The composition according to claim 16, wherein the meta-aminophenols are chosen from meta-aminophenol, 5-amino-2-methoxyphenol, 5-amino-2-(β-hydroxyethoxy)phenol, 5-amino-2-methylphenol, 5-N-(β-hydroxyethyl)amino-2-methylphenol, 5-N-(β-hydroxyethyl)amino-4-methoxy-2-methylphenol, 5-amino-4-methoxy-2-methylphenol, 5-amino-4-chloro-2-methylphenol, 5-amino-

2,4-dimethoxyphenol, 5-(γ-hydroxypropylamino)-2-methylphenol, 3-amino-6-chlorophenol, 3-amino-6-bromophenol, 3-(β-aminoethyl)amino-6-chlorophenol, 3-(β-hydroxyethyl)amino-6-chlorophenol and acid addition salts thereof.

25. The composition according to claim 16, wherein said at least one first oxidation base is present in the composition in an amount ranging from 0.0005 to 12% by weight relative to the total weight of the composition.

26. The composition according to claim 25, wherein said at least one first oxidation base is present in an amount ranging from 0.005 to 6% by weight relative to the total weight of the composition.

27. The composition according to claim 16, wherein said at least one second oxidation base is present in the composition in an amount ranging from 0.0005 to 12% by weight relative to the total weight of the composition.

28. The composition according to claim 27, wherein said at least one second oxidation base is present in the composition in an amount ranging from 0.005 to 6% by weight relative to the total weight of the composition.

29. The composition according to claim 16, wherein said at least one coupler is present in the composition in an amount ranging from 0.0001 to 10% by weight relative to the total weight of the composition.

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30. The composition according to claim 29, wherein said at least one coupler is present in the composition in an amount ranging from 0.005 to 5% by weight relative to the total weight of the composition.

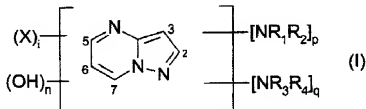
31. The composition according to claim 16, wherein the acid addition salts are chosen from hydrochlorides, hydrobromides and sulphates and tartrates, lactates and acetates and wherein the base addition salts are chosen from those obtained with sodium hydroxide, potassium hydroxide, aqueous ammonia and amines.

32. A process for dyeing keratinous fibers comprising:

applying to said keratinous fibers at least one dyeing composition comprising:

at least one first oxidation base chosen from pyrazolo(1,5-a)pyrimidines of

formula (I) and acid or base addition salts thereof:



in which:

- R₁, R₂, R₃ and R₄, which are identical or different, are chosen from a hydrogen atom; a (C₁-C₄)alkyl radical; an aryl radical; a hydroxy(C₁-C₄)alkyl radical; a polyhydroxy(C₂-C₄)alkyl radical; a (C₁-C₄)alkoxy(C₁-C₄)alkyl radical; an amino(C₁-C₄)alkyl radical wherein said amine is optionally protected by an acetyl, an amido, or a sulphonyl group; a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di((C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical wherein said dialkyls optionally form a 5- or 6-membered aliphatic or heterocyclic ring; a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical; and a di(hydroxy(C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical;

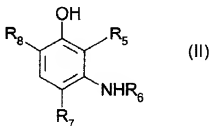
- the X radicals, which are identical or different, are chosen from a hydrogen atom; a (C₁-C₄)alkyl radical; an aryl radical; a hydroxy(C₁-C₄)alkyl radical; a polyhydroxy(C₂-C₄)alkyl radical; an amino(C₁-C₄)alkyl radical; a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di((C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical wherein said dialkyls optionally form a 5- or 6-membered aliphatic or heterocyclic ring; a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di(hydroxy(C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical; an amino radical; a (C₁-C₄)alkylamino radical; a di((C₁-C₄)alkyl)amino radical; a halogen atom; a carboxylic acid group; and a sulphonic acid group;

- i is 0, 1, 2 and 3;
- p is 0 or 1;

- q is 0 or 1;
- n is 0 or 1;

with the proviso that:

- (iv) the sum $p + q$ is other than 0;
- (v) when $p + q$ is equal to 2, then n is 0 and the NR_1R_2 and NR_3R_4 groups occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
- (vi) when $p + q$ is equal to 1, then n is 1 and either the NR_1R_2 or the NR_3R_4 group and the OH group occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
- at least one second oxidation base chosen from N,N-bis(β -hydroxyethyl)- para-phenylenediamine and its acid addition salts; and
- at least one coupler chosen from meta-phenylenediamines and meta-aminophenols of formula (II) and acid addition salts thereof:



in which:

- R_5 and R_8 , which are identical or different, are chosen from a hydrogen atom, a halogen atom, or a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkyl, polyhydroxy (C_2-C_4) alkyl, (C_1-C_4) alkoxy, monohydroxy (C_1-C_4) alkoxy or polyhydroxy (C_2-C_4) alkoxy radical;
- R_6 is chosen from a hydrogen atom and a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkyl, polyhydroxy (C_2-C_4) alkyl or an amino (C_1-C_4) alkyl radical;
- R_7 is chosen from a hydrogen atom, a (C_1-C_4) alkyl or (C_1-C_4) alkoxy radical and a halogen atom chosen from chlorine, bromine or fluorine;

it being understood that, when R_5 represents a chlorine atom and when R_6 and R_7 simultaneously represent a hydrogen atom, then R_8 is other than a methyl radical, and

wherein color is developed at acidic, neutral or alkaline pH in the presence of at least one oxidizing agent which is added to the at least one dyeing composition only at the time of application or which is present in an oxidizing composition applied simultaneously or sequentially in a separate manner.

33. The process according to claim 32, wherein the keratinous fibers are human keratinous fibers.

34. The process according to claim 33, wherein the human keratinous fibers are hair.

35. The process according to claim 32, comprising a medium appropriate for dyeing.

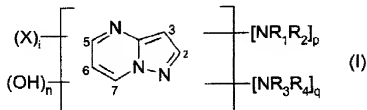
36. The process according to claim 34, wherein when R_5 or R_8 is a halogen atom, said halogen atom is chosen from chlorine, bromine, iodine and fluorine.

37. The process according to claim 32, wherein said at least one oxidizing agent is chosen from hydrogen peroxide, urea hydrogen peroxide, alkali metal bromates, persalts, peracids and enzymes.

38. A multi-compartment kit device comprising a first compartment and a second compartment, wherein

said first compartment contains a dye composition comprising:

- at least one first oxidation base chosen from pyrazolo(1,5-a)pyrimidines of formula (I) and acid or base addition salts thereof:



in which:

- R_1 , R_2 , R_3 and R_4 , which are identical or different, are chosen from a hydrogen atom; a (C_1-C_4) alkyl radical; an aryl radical; a hydroxy (C_1-C_4) alkyl radical; a

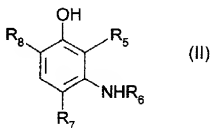
polyhydroxy(C₂-C₄)alkyl radical; a (C₁-C₄)alkoxy(C₁-C₄)alkyl radical; an amino(C₁-C₄)alkyl radical wherein said amine is optionally protected by an acetyl, an amido, or a sulphonyl group; a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di((C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical wherein said dialkyls optionally form a 5- or 6-membered aliphatic or heterocyclic ring; a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical; and a di(hydroxy(C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical;

- the X radicals, which are identical or different, are chosen from a hydrogen atom; a (C₁-C₄)alkyl radical; an aryl radical; a hydroxy(C₁-C₄)alkyl radical; a polyhydroxy(C₂-C₄)alkyl radical; an amino(C₁-C₄)alkyl radical; a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di((C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical wherein said dialkyls optionally form a 5- or 6-membered aliphatic or heterocyclic ring; a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical; a di(hydroxy(C₁-C₄)alkyl)amino(C₁-C₄)alkyl radical; an amino radical; a (C₁-C₄)alkylamino radical; a di((C₁-C₄)alkyl)amino radical; a halogen atom; a carboxylic acid group; and a sulphonic acid group;

- i is 0, 1, 2 and 3;
- p is 0 or 1;
- q is 0 or 1;
- n is 0 or 1;

with the proviso that:

- (vii) the sum $p + q$ is other than 0;
- (viii) when $p + q$ is equal to 2, then n is 0 and the NR_1R_2 and NR_3R_4 groups occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
- (ix) when $p + q$ is equal to 1, then n is 1 and either the NR_1R_2 or the NR_3R_4 group and the OH group occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
- at least one second oxidation base chosen from N,N-bis(β -hydroxyethyl)- para-phenylenediamine and its acid addition salts; and
- at least one coupler chosen from meta-phenylenediamines and meta-aminophenols of formula (II) and acid addition salts thereof:



in which:

- R_5 and R_6 , which are identical or different, are chosen from a hydrogen atom, a halogen atom, or a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkyl, polyhydroxy (C_2-C_4) alkyl, (C_1-C_4) alkoxy, monohydroxy (C_1-C_4) alkoxy or polyhydroxy (C_2-C_4) alkoxy radical;
- R_6 is chosen from a hydrogen atom and a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkyl, polyhydroxy (C_2-C_4) alkyl or an amino (C_1-C_4) alkyl radical;
- R_7 is chosen from a hydrogen atom, a (C_1-C_4) alkyl or (C_1-C_4) alkoxy radical and a halogen atom chosen from chlorine, bromine or fluorine;

it being understood that, when R_5 represents a chlorine atom and when R_6 and R_7 simultaneously represent a hydrogen atom, then R_8 is other than a methyl radical, and

said second compartment contains an oxidizing composition.

39. The kit according to claim 38, wherein the at least one dyeing composition further comprises a medium appropriate for dyeing.

40. The kit according to claim 38, wherein when R_5 or R_6 is a halogen atom, said halogen atom is chosen from chlorine, bromine, iodine or fluorine.--

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REMARKS

Claims 16-40 are pending. In claim 16, which replaces claim 1, "ureido" has been replaced with "amido" to correct an obvious error as discussed below. As for the remaining claims, support for these claims can be found in the original specification and claims. No new matter has been added. Applicants now await an action on the merits.

Applicants note that they have corrected an obvious error in the claims. Claim 1, at line 17, recites that R_1 , R_2 , R_3 and R_4 each independently can be a C_1 - C_4 aminoalkyl radical wherein the amine may be protected with an "ureido" group. This description is not entirely correct because the amine of the aminoalkyl radical is actually protected as a ureido group, rather than with a ureido group.

A ureido group has the formula $-NHCONH_2$. When R_2 , for example, represents a C_1 - C_4 aminoalkyl radical wherein the amine is protected as a ureido group, the protected amine corresponds to the following formula: $-NR_1-C_1-C_4Alk-NHCONH_2$. Thus, the amine of the C_1 - C_4 aminoalkyl radical is protected with an amido group, *i.e.*, $-CONH_2$, and the protected group corresponds to a ureido radical, *i.e.*, $-NHCONH_2$.

Accordingly, Applicants intend to correct the present specification and have corrected this obvious error in claim 16 (replaces claim 1), in claim 32 (replaces claim 14), and in claim 38 (replaces claim 15). The skilled artisan would have realized that the terminology "protected with a ureido group" should have been recited "protected as an ureido group," or alternatively "protected with an amido group." In order to remain

Attorney Docket No. 5725.0545
Serial No. not yet assigned

consistent with the "protected with" language recited in the specification and claims, Applicants have replaced "ureido" with "amido." Because one of ordinary skill in the art would have realized the existence of this error in claim 1 and specification, along with the appropriate correction, the provisos in new claims 16, 32 and 38 regarding the "amido" group do not constitute new matter. See *M.P.E.P.* § 2163.07.

Prompt and favorable examination on the merits is respectfully requested.

Please grant any extensions of time required to enter this Preliminary Amendment and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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Dated: February 18, 2000

COMPOSITION FOR THE OXIDATION DYEING OF KERATINOUS
FIBRES AND DYEING PROCESS EMPLOYING THIS COMPOSITION

A subject-matter of the invention is a composition for the oxidation dyeing of keratinous
5 fibres and in particular of human keratinous fibres, such as hair, comprising, in a medium appropriate for dyeing, at least one first oxidation base chosen from pyrazolo[1,5-a]pyrimidines, N,N-bis(β -hydroxyethyl)-para-phenylenediamine as second oxidation base and at
10 least one coupler chosen from meta-aminophenols and meta-phenylenediamines, and the dyeing process employing this composition.

It is known to dye keratinous fibres and in particular human hair with dyeing compositions
15 comprising oxidation dye precursors, in particular ortho- or para-phenylenediamines, ortho- or para-aminophenols or heterocyclic bases, generally known as oxidation bases. Oxidation dye precursors or oxidation bases are colourless or weakly coloured compounds
20 which, in combination with oxidizing substances, can give rise by an oxidative coupling process to coloured and colouring compounds.

It is also known that the shades obtained with these oxidation bases can be varied by combining
25 them with couplers or colouring modifiers, the latter being chosen in particular from aromatic meta-diamines, meta-aminophenols, meta-diphenols and certain heterocyclic compounds.

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The variety of the molecules employed as oxidation bases and couplers makes it possible to obtain a rich palette of colours.

The so-called "permanent" colouring obtained by virtue of these oxidation dyes has, however, to satisfy a certain number of requirements. Thus, it must make it possible to obtain shades with the desired intensity and behave well in the face of external agents (light, bad weather, washing, permanent waving, perspiration or rubbing).

The dyes must also make it possible to cover white hair and, finally, be as unselective as possible, that is to say make it possible to obtain the least possible differences in colouring along the same keratinous fibre, this being because the latter can be sensitized (i.e. damaged) to a varying degree between its tip and its root.

Provision has already been made, in particular in Patent Application FR-A-2,750,048, for compositions for the oxidation dyeing of keratinous fibres comprising, as oxidation base, pyrazolo[1,5-a]-pyrimidines, optionally in combination with one or more couplers. However, the colourings obtained are not always powerful enough, chromatic enough or sufficiently resistant to the various attacks which hair may be subjected to.

In point of fact, the Applicant Company has now just discovered that it is possible to obtain novel

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dyes, which dyes are capable of resulting in powerful colourings which are not very selective and which are highly resistant to the various attacks which the fibres may be subjected to, by combining at least one

5 pyrazolo[1,5-a]pyrimidine of formula (I) defined hereinbelow, as first oxidation base, N,N - bis (β-hydroxyethyl) - para-phenylenediamine and/or at least one of its addition salts with an acid, as second

10 oxidation base, and at least one coupler chosen from suitably selected meta-aminophenols and from meta-phenylenediamines.

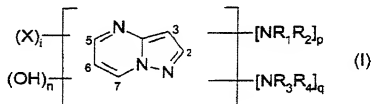
This discovery forms the basis of the present invention.

A first subject-matter of the invention is

15 therefore a composition for the oxidation dyeing of keratinous fibres and in particular of human keratinous fibres, such as hair, characterized in that it comprises, in a medium appropriate for dyeing:

- at least one first oxidation base chosen from

20 pyrazolo[1,5-a]pyrimidines of following formula (I) or their addition salts with an acid or with a base:



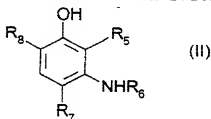
in which:

- R_1 , R_2 , R_3 and R_4 , which are identical or different, denote a hydrogen atom, a (C_1-C_4) alkyl radical, an aryl radical, a hydroxy (C_1-C_4) alkyl radical, a polyhydroxy (C_2-C_4) alkyl radical, a (C_1-C_4) alkoxy (C_1-C_4) -
- 5 alkyl radical, an amino (C_1-C_4) alkyl radical (it being possible for the amine to be protected by an acetyl, a ureido or a sulphonyl), a (C_1-C_4) alkylamino (C_1-C_4) alkyl radical, a di $[(C_1-C_4)$ alkyl]amino (C_1-C_4) alkyl radical (it being possible for the dialkyls to form a 5- or
- 10 6-membered aliphatic or heterocyclic ring), a hydroxy (C_1-C_4) alkylamino (C_1-C_4) alkyl radical or a di[hydroxy (C_1-C_4) alkyl]amino (C_1-C_4) alkyl radical;
- the X radicals, which are identical or different, denote a hydrogen atom, a (C_1-C_4) alkyl radical, an aryl
- 15 radical, a hydroxy (C_1-C_4) alkyl radical, a polyhydroxy (C_2-C_4) alkyl radical, an amino (C_1-C_4) alkyl radical, a (C_1-C_4) alkylamino (C_1-C_4) alkyl radical, a di $[(C_1-C_4)$ alkyl]amino (C_1-C_4) alkyl radical (it being possible for the dialkyls to form a 5- or 6-membered
- 20 aliphatic or heterocyclic ring), a hydroxy (C_1-C_4) alkylamino (C_1-C_4) alkyl radical, a di[hydroxy (C_1-C_4) alkyl]amino (C_1-C_4) alkyl radical, an amino radical, a (C_1-C_4) alkylamino radical, a di $[(C_1-C_4)$ alkyl]amino radical, a halogen atom, a
- 25 carboxylic acid group or a sulphonic acid group;
- i has the value 0, 1, 2 or 3;
- p has the value 0 or 1;
- q has the value 0 or 1;

- n has the value 0 or 1;

with the proviso that:

- (i) the sum $p + q$ is other than 0;
- (ii) when $p + q$ is equal to 2, then n has the value 0
5 and the NR_1R_2 and NR_3R_4 groups occupy the (2,3), (5,6),
(6,7), (3,5) or (3,7) positions;
- (iii) when $p + q$ is equal to 1, then n has the value 1
and the NR_1R_2 (or NR_3R_4) group and the OH group occupy
the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
- 10 - at least one second oxidation base chosen from
N,N-bis(β -hydroxyethyl)- para-phenylenediamine and
its addition salts with an acid; and
- at least one coupler chosen from meta-
phenylenediamines and meta-aminophenols of following
15 formula (II) and their addition salts with an acid:



in which:

- R_5 and R_8 , which are identical or different, represent
a hydrogen atom, a halogen atom, such as chlorine,
20 bromine, iodine or fluorine, or a (C_1-C_4) alkyl,
monohydroxy (C_1-C_4) alkyl, polyhydroxy (C_2-C_4) alkyl,
 (C_1-C_4) alkoxy, monohydroxy (C_1-C_4) alkoxy or
polyhydroxy (C_2-C_4) alkoxy radical;

- R₆ represents a hydrogen atom or a (C₁-C₄)alkyl, monohydroxy(C₁-C₄)alkyl, polyhydroxy(C₂-C₄)alkyl or amino(C₁-C₄)alkyl radical;

- R₇ represents a hydrogen atom, a (C₁-C₄)alkyl or (C₁-C₄)alkoxy radical or a halogen atom chosen from chlorine, bromine or fluorine;

it being understood that, when R₆ represents a chlorine atom and when R₆ and R₇ simultaneously represent a hydrogen atom, then R₆ is other than a methyl radical.

10 The dyeing composition in accordance with the invention results in powerful and chromatic colourings which exhibit low selectivity and excellent properties of resistance both with respect to atmospheric agents, such as light and bad weather, and with respect to
15 perspiration and various treatments which hair may be subjected to.

Another subject-matter of the invention is a process for the oxidation dyeing of keratinous fibres employing this dyeing composition.

20 The pyrazolo[1,5-a]pyrimidines of formula (I) which can be used as first oxidation base in the dyeing composition in accordance with the invention are known compounds which are disclosed in Patent Application FR-A-2,750,048, the contents of which form an integral
25 part of the present application.

Mention may in particular be made, among the pyrazolo[1,5-a]pyrimidines of formula (I) which can be

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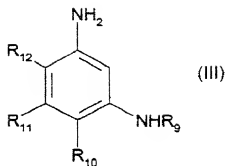
used as oxidation base in the dyeing compositions in accordance with the invention, of:

- pyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 2-methylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 5 - 2,5-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- pyrazolo[1,5-a]pyrimidine-3,5-diamine;
- 2,7-dimethylpyrazolo[1,5-a]pyrimidine-3,5-diamine;
- 3-aminopyrazolo[1,5-a]pyrimidin-7-ol;
- 3-amino-5-methylpyrazolo[1,5-a]pyrimidin-7-ol;
- 10 - 3-aminopyrazolo[1,5-a]pyrimidin-5-ol;
- 2-(3-aminopyrazolo[1,5-a]pyrimidin-7-ylamino) ethanol;
- 3-amino-7-(β -hydroxyethylamino)-5-methylpyrazolo-
[1,5-a]pyrimidine;
- 2-(7-aminopyrazolo[1,5-a]pyrimidin-3-ylamino) ethanol;
- 15 - 2-[(3-aminopyrazolo[1,5-a]pyrimidin-7-yl) (2-hydroxy-
ethyl) amino] ethanol;
- 2-[(7-aminopyrazolo[1,5-a]pyrimidin-3-yl) (2-hydroxy-
ethyl) amino] ethanol;
- 5,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 20 - 2,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 2,5,N-7,N-7-tetramethylpyrazolo[1,5-a]pyrimidine-3,7-
diamine;

and their addition salts with an acid or with a base.

- The meta-phenylenediamines which can be used
- 25 as coupler in the dyeing composition in accordance with the invention are preferably chosen from the compounds of following formula (III) and their addition salts with an acid:

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in which:

- R₉ represents a hydrogen atom or a (C₁-C₄) alkyl, monohydroxy(C₁-C₄) alkyl or polyhydroxy(C₂-C₄) alkyl radical;
- R₁₀ and R₁₁, which are identical or different, represent a hydrogen atom or a (C₁-C₄) alkyl, monohydroxy(C₁-C₄) alkoxy or polyhydroxy(C₂-C₄) alkoxy radical;
- R₁₂ represents a hydrogen atom, a (C₁-C₄) alkoxy, amino(C₁-C₄) alkoxy, monohydroxy(C₁-C₄) alkoxy or polyhydroxy(C₂-C₄) alkoxy radical or a 2,4-diaminophenoxyalkoxy radical.

- Mention may more particularly be made, among
- the meta-phenylenediamines of formula (III) above, of meta-phenylenediamine, 3,5-diamino-1-ethyl-2-methoxybenzene, 3,5-diamino-2-methoxy-1-methylbenzene, 2,4-diamino-1-ethoxybenzene, 1,3-bis(2,4-diaminophenoxy)propane, bis(2,4-diaminophenoxy)methane,
 - 1-(β-aminoethyloxy)-2,4-diaminobenzene, 2-amino-1-(β-hydroxyethyloxy)-4-(methylamino)benzene, 2,4-diamino-1-ethoxy-5-methylbenzene, 2,4-diamino-5-(β-hydroxyethyloxy)-1-methylbenzene, 2,4-diamino-

1-(β , γ -dihydroxypropyloxy)benzene, 2,4-diamino-1-(β -hydroxyethyloxy)benzene, 2-amino-4-N-(β -hydroxyethyl)amino-1-methoxybenzene and their addition salts with an acid.

- 5 Mention may more particularly be made, among the meta-aminophenols of formula (II) which can be used as coupler in the dyeing composition in accordance with the invention, of meta-aminophenol, 5-amino-2-methoxyphenol, 5-amino-2-(β -hydroxyethyloxy)phenol, 10 5-amino-2-methylphenol, 5-N-(β -hydroxyethyl)amino-2-methylphenol, 5-N-(β -hydroxyethyl)amino-4-methoxy-2-methylphenol, 5-amino-4-methoxy-2-methylphenol, 5-amino-4-chloro-2-methylphenol, 5-amino-2,4-dimethoxyphenol, 5-(γ -hydroxypropylamino)- 15 2-methylphenol, 3-amino-6-chlorophenol, 3-amino-6-bromophenol, 3-(β -aminoethyl)amino-6-chlorophenol, 3-(β -hydroxyethyl)amino-6-chlorophenol and their addition salts with an acid.

- The pyrazolo[1,5-a]pyrimidine or 20 pyrazolo[1,5-a]pyrimidines of formula (I) in accordance with the invention and/or the addition salt or their addition salts with an acid or with a base preferably represent from 0.0005 to 12% by weight approximately of the total weight of the dyeing composition in 25 accordance with the invention and more preferably still from 0.005 to 6% by weight approximately of this weight.

N,N -Bis(β -hydroxyethyl)- para-phenylene-diamine and/or the addition salt or its addition salts with an acid which can be used as second oxidation base in the dyeing composition in accordance with the

- 5 invention preferably represent from 0.0005 to 12% by weight approximately of the total weight of the dyeing composition in accordance with the invention and more preferably still from 0.005 to 6% by weight approximately of this weight.

- 10 The meta-phenylenediamine or meta-phenylenediamines and/or the meta-aminophenol or meta-aminophenols of formula (II) and/or the addition salt or their addition salts with an acid preferably represent from 0.0001 to 10% by weight approximately of
- 15 the total weight of the dyeing composition and more preferably still from 0.005 to 5% by weight approximately of this weight.

- The dyeing composition in accordance with the invention can additionally comprise one or more
- 20 couplers other than the meta-phenylenediamines and the meta-aminophenols of formula (II) and/or one or more direct dyes, in particular for modifying the shades or enriching them with highlights.

- Mention may in particular be made, among the
- 25 couplers which can additionally be present in the dyeing composition according to the invention, of metadiphenols, heterocyclic couplers and their addition salts with an acid.

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Generally, the addition salts with an acid which can be used in the context of the dyeing compositions of the invention (oxidation bases and couplers) are chosen in particular from hydrochlorides, hydrobromides and sulphates and tartrates, lactates and acetates. The addition salts with a base which can be used in the context of the dyeing compositions of the invention are in particular those obtained with sodium hydroxide, potassium hydroxide, aqueous ammonia or amines.

The medium appropriate for dyeing (or vehicle) of the dyeing composition in accordance with the invention is generally composed of water or of a mixture of water and of at least one organic solvent, in order to dissolve the compounds which would not be sufficiently soluble in water. Mention may be made, for example, as organic solvent, of C₁-C₄ alkanols, such as ethanol and isopropanol; glycerol; glycols and glycol ethers, such as 2-butoxyethanol, propylene glycol, propylene glycol monomethyl ether, diethylene glycol monoethyl ether and diethylene glycol monomethyl ether; and aromatic alcohols, such as benzyl alcohol or phenoxyethanol, the analogous products and their mixtures.

The solvents can be present in proportions preferably of between 1 and 40% by weight approximately with respect to the total weight of the dyeing

The pH of the dyeing composition in accordance with the invention is generally between 3 and 12 approximately and preferably between 5 and 12 approximately. It can be adjusted to the desired value by means of acidifying or basifying agents commonly used in dyeing keratinous fibres.

Mention may be made, among basifying agents, by way of example, of aqueous ammonia, alkaline carbonates, alkanolamines, such as mono-, di- and triethanolamines, 2-methyl-2-aminopropanol and their derivatives, sodium hydroxide, potassium hydroxide and the compounds of following formula (IV):

$$\begin{array}{ccc} R_{13} & & R_{15} \\ & \diagdown & / \\ & N-W-N & \\ & / & \diagdown \\ R_{14} & & R_{16} \end{array} \quad (IV)$$

in which W is a propylene residue optionally substituted by a hydroxyl group or a (C₁-C₄)alkyl radical and R₁₃, R₁₄, R₁₅ and R₁₆, which are identical or 25 different, represent a hydrogen atom or a (C₁-C₄)alkyl or hydroxy(C₁-C₄)alkyl radical.

The dyeing composition in accordance with the invention can also include various adjuvants conventionally used in hair dyeing compositions, such as anionic, cationic, non-ionic, amphoteric or

5 zwitterionic surface-active agents or their mixtures, anionic, cationic, non-ionic, amphoteric or zwitterionic polymers or their mixtures, inorganic or organic thickening agents, such as, for example, non-ionic guar gums, antioxidizing agents, enzymes, such as

10 2-electron oxidoreductases, peroxidases or laccases, penetration agents, sequestering agents, fragrances, buffers, dispersing agents, conditioning agents, such as, for example, volatile or nonvolatile and modified or unmodified silicones, film-forming agents,

15 ceramides, preserving agents or opacifying agents.

Of course, a person skilled in the art will take care to choose this or these optional additional compound or compounds so that the advantageous properties intrinsically attached to the dyeing

20 composition in accordance with the invention are not, or not substantially, detrimentally affected by the envisaged addition or additions.

The dyeing composition in accordance with the invention can be provided in various forms, such as in

25 the form of liquids, powders, creams or gels, which are optionally pressurized, or in any other form appropriate for carrying out dyeing of keratinous fibres and in particular human hair.

Another subject-matter of the invention is a process for dyeing keratinous fibres and in particular human keratinous fibres, such as hair, employing the dyeing composition as defined above.

5 According to this process, the dyeing composition as defined above is applied to the fibres, the colour being developed at acidic, neutral or alkaline pH using an oxidizing agent which is added only at the time of use to the dyeing composition or
10 which is present in an oxidizing composition applied simultaneously or sequentially in a separate fashion.

 According to a particularly preferred embodiment of the dyeing process according to the invention, the dyeing composition described above is
15 mixed, at the time of use, with an oxidizing composition comprising, in a medium appropriate for dyeing, at least one oxidizing agent present in an amount sufficient to develop a colouring. The mixture obtained is subsequently applied to the keratinous
20 fibres and is left to stand for 3 to 50 minutes approximately, preferably 5 to 30 minutes approximately, after which the hair is rinsed, washed with a shampoo, rinsed again and dried.

 The oxidizing agent present in the oxidizing
25 composition as defined above can be chosen from oxidizing agents conventionally used for the oxidation dyeing of keratinous fibres and among which may be mentioned hydrogen peroxide, urea hydrogen peroxide,

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desired mixture to be deposited on the hair, such as the devices disclosed in Patent FR-2,586,913 on behalf of the Applicant Company.

The examples which follow are intended to illustrate the invention without, however, limiting the scope thereof.

EXAMPLES

DYEING EXAMPLES 1 AND 2

The following dyeing compositions were prepared (contents in grams):

EXAMPLE	1	2
Pyrazolo[1,5-a]pyrimidine-3,7-diamine·2HCl	0.666	0.666
N,N -Bis(β-hydroxyethyl)- para-phenylenediamine	0.936	0.936
2-Methyl-5-[N-(β-hydroxyethyl)amino]phenol	1.0	-
2,4-Diamino-1-(β-hydroxyethoxy)benzene·2HCl	-	1.446
Common dyeing vehicle	(*)	(*)
Demineralized water, q.s. for	100 g	100 g

(*): Common dyeing vehicle:

- 96° Ethyl alcohol 18 g
- Pentasodium salt of diethylenetriamine-pentaacetic acid 1.1 g
- 15 - Aqueous ammonia comprising 20% of NH₃ 10 g

At the time of use, each of the dyeing compositions described above was mixed, weight for weight, with a 20-volume hydrogen peroxide solution (6% by weight).

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Each of the mixtures thus prepared was applied for 30 minutes to locks of natural grey hair comprising 90% of white hairs. The locks were subsequently rinsed, washed with a standard shampoo, 5 rinsed again and then dried.

The hair was dyed in a shade which appears in the table below:

EXAMPLE	SHADE OBTAINED
1	Deep ash purple
2	Blue

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CLAIMS

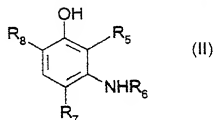
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- R₁, R₂, R₃ and R₄, which are identical or different, denote a hydrogen atom, a (C₁-C₄)alkyl radical, an aryl radical, a hydroxy(C₁-C₄)alkyl radical, a polyhydroxy(C₂-C₄)alkyl radical, a (C₁-C₄)alkoxy(C₁-C₄)alkyl radical, an amino(C₁-C₄)alkyl radical (it being possible for the amine to be protected by an acetyl, a ureido or a sulphonyl), a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical, a di[(C₁-C₄)alkyl]amino(C₁-C₄)alkyl radical (it being possible for the dialkyls to form a 5- or 6-membered aliphatic or heterocyclic ring), a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical or a di[hydroxy(C₁-C₄)alkyl]amino(C₁-C₄)alkyl radical; - the X radicals, which are identical or different, denote a hydrogen atom, a (C₁-C₄)alkyl radical, an aryl

- radical, a hydroxy(C₁-C₄)alkyl radical, a polyhydroxy(C₂-C₄)alkyl radical, an amino(C₁-C₄)alkyl radical, a (C₁-C₄)alkylamino(C₁-C₄)alkyl radical, a di[(C₁-C₄)alkyl]amino(C₁-C₄)alkyl radical (it being possible for the dialkyls to form a 5- or 6-membered aliphatic or heterocyclic ring), a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical, a di[hydroxy(C₁-C₄)alkyl]amino(C₁-C₄)alkyl radical, an amino radical, a (C₁-C₄)alkylamino radical, a
- 10 di[(C₁-C₄)alkyl]amino radical, a halogen atom, a carboxylic acid group or a sulphonic acid group;
- i has the value 0, 1, 2 or 3;
 - p has the value 0 or 1;
 - q has the value 0 or 1;
- 15 - n has the value 0 or 1;
- with the proviso that:
- (i) the sum p + q is other than 0;
 - (ii) when p + q is equal to 2, then n has the value 0 and the NR₁R₂ and NR₃R₄ groups occupy the (2,3), (5,6),
- 20 (6,7), (3,5) or (3,7) positions;
- (iii) when p + q is equal to 1, then n has the value 1 and the NR₁R₂ (or NR₃R₄) group and the OH group occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;
 - at least one second oxidation base chosen from
- 25 N,N-bis(β-hydroxyethyl)- para-phenylenediamine and its addition salts with an acid; and

- at least one coupler chosen from meta-phenylenediamines and meta-aminophenols of following formula (II) and their addition salts with an acid:



5 in which:

- R_5 and R_8 , which are identical or different, represent a hydrogen atom, a halogen atom, such as chlorine, bromine, iodine or fluorine, or a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkyl, polyhydroxy (C_2-C_4) alkyl, (C_1-C_4) alkoxy, monohydroxy (C_1-C_4) alkoxy or polyhydroxy (C_2-C_4) alkoxy radical;
- R_6 represents a hydrogen atom or a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkyl, polyhydroxy (C_2-C_4) alkyl or amino (C_1-C_4) alkyl radical;
- 15 - R_7 represents a hydrogen atom, a (C_1-C_4) alkyl or (C_1-C_4) alkoxy radical or a halogen atom chosen from chlorine, bromine or fluorine;

it being understood that, when R_5 represents a chlorine atom and when R_6 and R_7 simultaneously represent a hydrogen atom, then R_8 is other than a methyl radical.

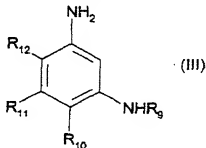
2. Composition according to Claim 1, characterized in that the pyrazolo[1,5-a]pyrimidines of formula (I) are chosen from:

- pyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 25 - 2-methylpyrazolo[1,5-a]pyrimidine-3,7-diamine;

- 2,5-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- pyrazolo[1,5-a]pyrimidine-3,5-diamine;
- 2,7-dimethylpyrazolo[1,5-a]pyrimidine-3,5-diamine;
- 3-aminopyrazolo[1,5-a]pyrimidin-7-ol;
- 5 - 3-amino-5-methylpyrazolo[1,5-a]pyrimidin-7-ol;
- 3-aminopyrazolo[1,5-a]pyrimidin-5-ol;
- 2-(3-aminopyrazolo[1,5-a]pyrimidin-7-ylamino)ethanol;
- 3-amino-7-(β -hydroxyethylamino)-5-methylpyrazolo-
[1,5-a]pyrimidine;
- 10 - 2-(7-aminopyrazolo[1,5-a]pyrimidin-3-ylamino)ethanol;
- 2-[(3-aminopyrazolo[1,5-a]pyrimidin-7-yl)(2-hydroxy-
ethyl)amino]ethanol;
- 2-[(7-aminopyrazolo[1,5-a]pyrimidin-3-yl)(2-hydroxy-
ethyl)amino]ethanol;
- 15 - 5,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 2,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 2,5,N-7,N-7-tetramethylpyrazolo[1,5-a]pyrimidine-3,7-
diamine;

and their addition salts with an acid or with a base.

- 20 3. Composition according to Claim 1 or 2,
characterized in that the meta-phenylenediamines are
chosen from the compounds of following formula (III)
and their addition salts with an acid:



in which:

- R_9 represents a hydrogen atom or a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkyl or polyhydroxy (C_2-C_4) alkyl radical;
 - 5 - R_{10} and R_{11} , which are identical or different, represent a hydrogen atom or a (C_1-C_4) alkyl, monohydroxy (C_1-C_4) alkoxy or polyhydroxy (C_2-C_4) alkoxy radical;
 - R_{12} represents a hydrogen atom, a (C_1-C_4) alkoxy,
 - 10 amino (C_1-C_4) alkoxy, monohydroxy (C_1-C_4) alkoxy or polyhydroxy (C_2-C_4) alkoxy radical or a 2,4-diaminophenoxyalkoxy radical.
4. Composition according to Claim 3, characterized in that the meta-phenylenediamines are
- 15 chosen from meta-phenylenediamine, 3,5-diamino-1-ethyl-2-methoxybenzene, 3,5-diamino-2-methoxy-1-methylbenzene, 2,4-diamino-1-ethoxybenzene, 1,3-bis(2,4-diaminophenoxy)propane,
 - bis(2,4-diaminophenoxy)methane, 1-(β -aminoethyloxy)-
 - 20 2,4-diaminobenzene, 2-amino-1-(β -hydroxyethyloxy)-4-(methylamino)benzene, 2,4-diamino-1-ethoxy-5-methylbenzene, 2,4-diamino-5-(β -hydroxyethyloxy)-1-methylbenzene, 2,4-diamino-1-(β,γ -dihydroxypropyloxy)-benzene, 2,4-diamino-1-(β -hydroxyethyloxy)benzene,
 - 25 2-amino-4-N-(β -hydroxyethyl)amino-1-methoxybenzene and their addition salts with an acid.

5. Composition according to Claim 1 or 2, characterized in that the meta-aminophenols are chosen

from meta-aminophenol, 5-amino-2-methoxyphenol, 5-amino-2-(β -hydroxyethyloxy)phenol, 5-amino-2-methylphenol, 5-N-(β -hydroxyethyl)amino-2-methylphenol, 5-N-(β -hydroxyethyl)amino-4-methoxy-2-methylphenol, 5 5-amino-4-methoxy-2-methylphenol, 5-amino-4-chloro-2-methylphenol, 5-amino-2,4-dimethoxyphenol, 5-(γ -hydroxypropylamino)-2-methylphenol, 3-amino-6-chlorophenol, 3-amino-6-bromophenol, 3-(β -aminoethyl)amino-6-chlorophenol, 10 3-(β -hydroxyethyl)amino-6-chlorophenol and their addition salts with an acid.

6. Composition according to any one of the preceding claims, characterized in that the pyrazolo[1,5-a]pyrimidine or pyrazolo[1,5-a]pyrimidines 15 of formula (I) and/or the addition salt or their addition salts with an acid or with a base represent from 0.0005 to 12% by weight of the total weight of the dyeing composition.

7. Composition according to Claim 6, 20 characterized in that the pyrazolo[1,5-a]pyrimidine or pyrazolo[1,5-a]pyrimidines of formula (I) and/or the addition salt or their addition salts with an acid or with a base represent from 0.005 to 6% by weight of the total weight of the dyeing composition.

8. Composition according to any one of the preceding claims, characterized in that N,N-bis(β -hydroxyethyl)-para-phenylenediamine and/or the addition salt or its addition salts with an acid 25

represent from 0.0005 to 12% by weight of the total weight of the dyeing composition.

9. Composition according to Claim 8, characterized in that N,N -bis(β -hydroxyethyl)- para-
5 phenylenediamine and/or the addition salt or its addition salts with an acid represent from 0.005 to 6% by weight of the total weight of the dyeing composition.

10. Composition according to any one of the preceding claims, characterized in that the meta-phenylenediamine or meta-phenylenediamines and/or the meta-aminophenol or meta-aminophenols of formula (II) and/or the addition salt or their addition salts with an acid represent from 0.0001 to 10% by weight of the total weight of the dyeing composition.

11. Composition according to Claim 10, characterized in that the meta-phenylenediamine or meta-phenylenediamines and/or the meta-aminophenol or meta-aminophenols of formula (II) and/or the addition 20 salt or their addition salts with an acid represent from 0.005 to 5% by weight of the total weight of the dyeing composition.

12. Composition according to any one of the preceding claims, characterized in that the addition salts with an acid are chosen from hydrochlorides, hydrobromides and sulphates and tartrates, lactates and acetates and in that the addition salts with a base are

chosen from those obtained with sodium hydroxide,
potassium hydroxide, aqueous ammonia or amines.

13. Process for dyeing keratinous fibres and
in particular human keratinous fibres, such as hair,
5 characterized in that at least one dyeing composition
as defined in any one of Claims 1 to 12 is applied to
the said fibres and in that the colour is developed at
acidic, neutral or alkaline pH using an oxidizing agent
which is added only at the time of use to the dyeing
10 composition or which is present in an oxidizing
composition applied simultaneously or sequentially in a
separate fashion.

14. Process according to Claim 13,
characterized in that the oxidizing agent present in
15 the oxidizing composition is chosen from hydrogen
peroxide, urea hydrogen peroxide, alkali metal
bromates, persalts, peracids and enzymes.

15. Dyeing multi-compartment device or kit
with several compartments, a first compartment of which
20 includes a dyeing composition as defined in any one of
Claims 1 to 12 and a second compartment of which
includes an oxidizing composition.

ABSTRACT

COMPOSITION FOR THE OXIDATION DYEING OF KERATINOUS
FIBRES AND DYEING PROCESS EMPLOYING THIS COMPOSITION

A subject-matter of the invention is a composition for the oxidation dyeing of keratinous fibres and in particular of human keratinous fibres, such as hair, comprising, in a medium appropriate for dyeing, at least one first oxidation base chosen from pyrazolo[1,5-a]pyrimidines, N,N-bis(β -hydroxyethyl)-para-phenylenediamine as second oxidation base and at least one coupler chosen from meta-aminophenols and meta-phenylenediamines, and the dyeing process employing this composition.

00220-10524-00

Declaration and Power of Attorney for Patent Application

Déclaration et Pouvoir pour Demand de Brevet

French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que:

As a below named inventor, I hereby declare that:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

My residence, post office address and citizenship are as stated next to my name.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

OXIDATION DYEING COMPOSITION FOR
KERATINOUS FIBRES AND DYEING METHOD USING
SAME

et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée:

the specification of which is attached hereto unless the following box is checked:

a été déposée le _____
sous le numéro de demande des Etats-Unis ou le
numéro de demande international PCT
_____ et modifiée
_____ (les cas échéant).

☒ was filed on June 2, 1999 as United States
Application Number or PCT International
Application Number PCT/FR99/01291 and was
amended on _____ (if applicable).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign application(s)
Demande(s) de brevet antérieure(s)

Priority Not Claimed
Droit de priorité non revendiqué

98/07794 France
(Number) (Country)
(Numéro) (Pays)

19 June 1998
(Day/Month/Year Filed)
(Jour/Mois/Anné de dépôt)

☐

(Number) (Country)
(Numéro) (Pays)

(Day/Month/Year Filed)
(Jour/Mois/Anné de dépôt)

☐

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

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(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International Application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International Application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International Application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose any or all information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status) (patented, pending, abandoned)
(Status) (breveté, en cours d'examen, abandonné)

(Status) (patented, pending, abandoned)
(Status) (breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

French Language Declaration

POUVOIRS: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec L'Office des brevets et des marques: (*mentionner le nom et le numéro d'enregistrement*).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this patent application and transact all business in the Patent and Trademark Office connected therewith: (*list name and registration number*):

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